Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-9. Canceled

10. (Currently Amended) A method for determining whether an agent is an agonist of a plasma membrane receptor ER-X, which comprises

a) contacting the plasma membrane receptor ER-X with the agent, under conditions which permit ~~(i)~~ the formation of a complex between the plasma membrane receptor ER-X and a known agonist of the plasma membrane receptor ER-X~~, and (ii) the generation of a detectable signal upon formation of the complex between the receptor and the known agonist~~; and

b) determining whether ~~the detectable signal~~ ERK1/2 phosphorylation is ~~generated~~ increased in step (a), wherein ~~the generation of such detectable signal~~ an increase in ERK1/2 phosphorylation indicates the agent is an agonist of the plasma membrane receptor ER-X,

wherein the plasma membrane receptor ER-X has a molecular weight of 62-63kDa as determinable by SDS-PAGE and is obtainable by (i) contacting a neocortex tissue lysate from an estrogen receptor-α knockout mouse with a murine monoclonal antibody designated 6F11 raised against estrogen receptor alpha (ER-α) ~~designated 6F11~~ under conditions which permit the formation of a complex between the 6F11 antibody and ER-X; (ii) capturing the complex between the 6F11 antibody and ER-X with an anti-mouse IgG-coated polystyrene magnetizable bead; (iii) precipitating the complex; and (iv) separating ER-X from the complex based upon molecular size.

11. (Canceled)

12. (Currently Amended) A method for determining whether an agent is an antagonist of a plasma membrane receptor ER-X, which comprises

a) contacting the plasma membrane receptor ER-X with the agent in the presence of a known agonist of the plasma membrane receptor ER-X under conditions which permit ~~(i)~~ the formation of a complex between the plasma membrane receptor ER-X and the known agonist in a concentration of at least 0.1pM and less than 100pM; and ~~(ii) the generation of a detectable signal~~ determining the increase in ERK1/2 phosphorylation upon the formation of the complex between the receptor and the agonist; and

b) comparing the ~~detectable signal~~ increase in ERK1/2 phosphorylation generated in step (a) with the ~~detectable signal~~ the increase in ERK1/2 phosphorylation generated in the absence of the agent, wherein the ~~generation of a detectable signal~~ increase in ERK1/2 phosphorylation in the agent's absence being greater than the ~~detectable signal~~ increase in ERK1/2 phosphorylation generated in step (a) indicates the agent is an antagonist of the plasma membrane receptor ER-X,

wherein the plasma membrane receptor ER-X has a molecular weight of 62-63kDa as determinable by SDS-PAGE and is obtainable by (i) contacting a neocortex tissue lysate from an estrogen receptor-α knockout mouse with a murine monoclonal antibody designated 6F11 raised against estrogen receptor alpha (ER-α) ~~designated 6F11~~ under conditions which permit the formation of a complex between the 6F11 antibody and ER-X; (ii) capturing the complex between the 6F11 antibody and ER-X with an anti-mouse IgG-coated polystyrene magnetizable bead; (iii) precipitating the complex; and (iv)

separating ER-X from the complex based upon molecular size as determined by SDS-PAGE.

13.-41. (Canceled)

42. (Previously Presented) The method of claim 12, wherein the known agonist is 17α-estradiol.